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Claim

5 [Claim 1] A patch comprising a backing impermeable to medicaments, and an adhesive layer provided on one surface of said backing, wherein said adhesive layer comprises an adhesive, a drug, an inorganic filler material, and a polymer having a carboxyl group or an amino group.

10 [0001]

[Industrial Field of Application] The present invention relates to a medication patch in which an adhesive layer comprising a drug is provided on one side of a backing, and more specifically relates to a patch which comprises an adhesive layer with cohesion increased by hydrogen bonding between a polymer having a carboxyl group or an amino group and an inorganic filler material.

20 [0010]Adhesive

Examples of the adhesive agent for forming the adhesive layer of the medication patch of the present invention include an acrylic based adhesive agent, rubber based adhesive agent, or silicon based adhesive agent and the like. A homopolymer or a copolymer of (meth)acrylic acid alkyl ester obtained from aliphatic alcohol with between 4 and 18

carbons and (meth)acrylic acid, and/or a copolymer of the
aforementioned (meth)acrylic acid alkyl ester and other
functional monomers are preferably used as the acrylic based
adhesive agent.

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[0011]Examples of (meth)acrylate ester include butyl acrylate,
hexyl acrylate, octyl acrylate, 2-ethylhexyl acrylate, decyl
acrylate, dodecyl acrylate, stearyl acrylate, methyl
methacrylate, ethyl methacrylate, butyl methacrylate,
10 2-ethylhexyl methacrylate, decyl methacrylate, dodecyl
methacrylate, stearyl methacrylate and the like.

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[0014]Examples of available copolymeric monomer other than
those mentioned above include vinyl acetate, vinyl alcohol,
styrene, alpha-methyl styrene, vinyl chloride, acrylonitrile,
ethylene, propylene, butadiene, and the like. Preferably no
less than 50 wt% of the (co)polymer component of the
adhesive is (meth)acrylic acid alkyl ester. Rubber based
20 adhesives include natural rubber, styrene-isoprene block
copolymer (SIS), polyisoprene (IR), polybutylene,
polyisobutylene, or ethylene-vinyl acetate copolymer or the
like to which an adhesive enhancing agent, softening agent,
and/or preservative or the like has been added.

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[0019]Drugs The drugs used for the medicated patch of the present invention are not particularly restricted, so long as the drugs are suitable for use in medicated patches. Generally the active ingredient used as the drug (physiologically active substance) can be any substance which can pass through a biological membrane by transdermal administration or mucosal administration. Specific examples include anti-inflammatory analgesic drugs, anti-inflammatory drugs, circulatory system drugs such as anginal drugs and antihypertensive drugs, antiallergic drugs, hormone drugs, antipruritic drugs, anti-histamine drugs, perfumes, analgesic drugs, moisture retaining agents, and vitamins, and the like.

[0021]Polymer Containing a Carboxyl Group or an Amino Group

With the present invention, the adhesive layer contains a polymer that has a carboxyl group or an amino group. The reason that a polymer with a carboxyl group or an amino group is added is to form hydrogen bonds with the inorganic filler and thereby increase the cohesion of the adhesive layer.

[0026]Examples of polymers that contain amino groups include ester bonded compounds of an acetal of a polyvinyl alcohol and aminoacetic acid; a copolymer of a (meth)acrylic acid alkyl ester and an alkyl methacrylic acid ester that has an

amino group; and an alkylated sulfonic acid salt of a higher fatty acid amide and the like.

[0027] Examples of a copolymer of a (meth)acrylic acid alkyl ester and an alkyl methacrylic acid ester that has an amino group include amino alkyl methacrylate copolymer E (manufactured by Rohm Tech Inc., product name: Eudragit E, a copolymer where approximately 44 wt% of the copolymer component is a copolymer of methyl methacrylate and butyl methacrylate at essentially equivalent amounts, and the remaining copolymer component is primarily dimethylaminoethyl methacrylate), aminoalkyl methacrylate copolymer RS (manufactured by Rohm Tech Inc., product name Eudragit RS, a copolymer comprising methyl methacrylate, ethyl acrylate, and chloridated trimethylammonium methacrylate as the copolymer components), and the like.